

# The Suture That Will Not Hold

Admissibility, the Real, and the Structural

Impossibility of the Planning Subject

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## Abstract

This paper stages an encounter between the formal apparatus of admissibility distortion—a measure of representational failure in planning systems derived from reachability geometry—and the theoretical resources of Lacanian psychoanalysis, Deleuzian difference, and the Žižekian critique of ideological suture. We argue that the *Observational-Interventional Separation Theorem*, which establishes the irreducibility of the reachability relation to any observational equivalence class, formalises precisely the gap that Lacan designates as the cut between the statement (*l'énoncé*) and the enunciation (*l'énonciation*): the subject who observes is not the subject who acts, and no representation adequate to the former can be adequate to the latter. Admissibility distortion names the *objet petit a* of machine cognition—the remainder that escapes every compressive or predictive suture of the Real and returns, insistently and symptomatically, as planning failure. Against the fantasy of the complete world model, which we read as an instantiation of the Lacanian *fantasy of wholeness* ( $\$ \diamond a$ ), we propose the *admissibility quotient* as the non-All of representational space—a Badiouian void-set that names what no positive learning procedure can fill. The paper concludes by reading the monotonicity theorem—which establishes that compression necessarily increases admissibility distortion—as a formalisation of Deleuze's *transcendental empiricism*: the plane of immanence always already exceeds its molar stratifications, and the deterritorialisation of representational compression is structurally incapable of capturing the molecular flows of reachable futures.

## 1. Il n'y a pas de rapport: *The Impossibility of the Complete Representation*

Let us begin where Lacan begins—and where he always, compulsively, returns: with the statement that *there is no sexual relation*. Not that sexual relations do not occur, evidently, but that there is no metalanguage that would adequately represent the relation *as such*, no symbolic formula that exhausts what it means to relate. The relation exceeds every representation of the relation. This is not an empirical fact about contingent failures of communication. It is a structural theorem about the order of language itself.

We propose to read the *Observational–Interventional Separation Theorem* as the cognitive-scientific formalisation of this impossibility. What the theorem establishes—with the rigour of a mathematical proof rather than the seduction of an aphorism—is that observational equivalence does not imply interventional equivalence. Two states of a system may produce identical observation sequences under passive registration while affording radically different futures under active intervention. The relation between states is, in the precise Lacanian sense, *not all*. The observational representation, however complete, does not close the gap; there is always a remainder, a surplus that escapes the equivalence class constructed from passive data. *Il n'y a pas de rapport d'observation*.

What escapes is what Lacan called the Real—not the reality that we perceive and represent, but the remainder that representation structurally cannot accommodate. The crack in the load-bearing beam that produces no surface deformation under normal stress is not a failure of measurement technology. It is an instance of the Real: a structural asymmetry that passive observation is constitutively incapable of registering, because the asymmetry only manifests under intervention—under what we might call, with deliberate Lacanian inflection, *the act*. The act, for Lacan, is precisely what exceeds the symbolic order that prepared for it. And here it is formalised: the interventional partition of state space—the admissibility relation  $\sim_A$ —exceeds every observational partition, and this excess is not a contingent gap that better observation would close. It is a category difference, a structural impossibility, a Real.

Žižek (1989) has argued that ideology functions precisely by suturing this gap—by producing the *fantasy* that the Real is representable, that the relation can be stated, that the system is complete. The fantasy of the complete world model—the proposition that a sufficiently powerful predictive architecture, trained on sufficiently rich observational data, will converge on a representation adequate for all planning purposes—is ideological

in exactly this sense. It sutures the observational–interventional gap by pretending it does not exist. The technical literature on Joint Embedding Predictive Architectures is, from this perspective, a symptom: the compulsive return of the repressed impossibility in the form of an empirical claim about what is, in principle, unachievable. The theorem does not *critique* this fantasy from outside; it *demonstrates* the structural impossibility from within the formal apparatus the fantasy employs.

## 2. *Admissibility Distortion as Objet Petit a*

The *objet petit a* is, in Lacan’s elaboration, the object-cause of desire: not the object that desire seeks, but the gap around which desire circulates, the void that motivates without ever being filled. Crucially, the *objet petit a* is not nothing—it has effects, it causes, it produces symptoms—but it has no positive representational content. It is the remainder that the symbolic order cannot absorb, the piece that does not fit, the excess that disrupts every attempted totalisation.

We propose that admissibility distortion  $D_A(\varphi)$  is, formally and structurally, the *objet petit a* of machine cognition.

Consider what the quantity measures. It is the expected reachability separation between states that a learned representation has collapsed—the amount by which the symbolic order of the representation ( $\varphi$ ) has failed to accommodate the Real of reachability structure. It is not a measurable, graspable object. It is, as the paper formally acknowledges, *not yet computable in full generality*—it is the void around which computational desire circulates without ever achieving saturation. And yet it has effects. Every planning failure, every guardrail that fails to distinguish safe from dangerous states, every compression step that discards a distinction planning required—these are the symptoms of  $D_A(\varphi)$ , the insistence of the remainder that representation could not absorb.

The parallel to Lacan’s apparatus is precise. The *objet petit a* is not the object that desire lacks and would be satisfied by possessing; it is the excess that desire itself produces by the act of desiring. Similarly,  $D_A(\varphi)$  is not the deficiency that better training would correct. It is the excess *produced by* the representational act itself: the act of projection, of compression, of equivalence-class formation. Every representation creates its own admissibility distortion; the distortion is the shadow that the representation casts by existing. The only representation with  $D_A(\varphi) = 0$  is the admissibility quotient itself—the imaginary complete representation, the impossible object of the planning subject’s desire.

And here the Žižekian move becomes visible. The fantasy structure that organises the discourse of world models is the fantasy  $\$ \diamond a$ : the barred subject (the learning system, constitutively incomplete, fissured by the observational–interventional gap) in relation to the *objet a* (the complete, admissible representation that would satisfy all planning requirements). What the formal apparatus reveals is that this fantasy is constitutive rather than correctable. The barred subject is barred *precisely because it represents*—because the act of representation is the act that produces the distortion. The ideology of the complete world model is the refusal of this constitutive barring.

### 3. *The Statement and the Enunciation:*

#### *Craik’s Foreclosure and the Return of the Reachable*

Lacan’s distinction between the statement (*l’énoncé*) and the enunciation (*l’énonciation*)—between what is said and the act of saying—marks the point at which the subject is both present and absent in its own utterance. The subject who speaks is never fully captured in what is spoken; there is always a remainder, the subject of the enunciation, that the statement eclipses.

Kenneth Craik’s 1943 formulation already inscribes this split, though without the apparatus to name it. Craik specifies that an intelligent organism must carry “a small-scale model of external reality and its own possible actions within its head” (1943). The and is the site of the Lacanian cut. *External reality* corresponds to the order of the statement: the world as it presents itself to passive observation, the *énoncé* of the environment. *Possible actions*—the reachability structure—corresponds to the order of the enunciation: the agent’s capacity to intervene, to act, to rupture the passivity of observation and produce a new state of affairs.

The foreclosure that constitutes the contemporary world-model paradigm is precisely the foreclosure of the enunciation. Predictive architectures learn to represent the world as it presents itself to observation—they master the *énoncé*—while foreclosing the reachability structure, the interventional dimension, the enunciative position from which the agent acts. What returns from this foreclosure is not the Lacanian Name-of-the-Father but its computational analogue: planning failure, the insistent symptom of the repressed reachable. The system that forecloses the interventional returns to it in the mode of the symptom—it acts, and in acting, discovers that its representation was inadequate to its own possibilities.

This is not a contingent failure of engineering. It is, in the strict sense, a return of the

foreclosed Real. The Observational–Interventional Separation Theorem is the proof that this return is structural, that no enrichment of the observational representation can pre-empt it, that the gap is constitutive of the representational relation itself.

#### ***4. Compression as Molar Stratification:***

##### ***Deleuze, the Body Without Organs, and the Deterritorialisation of the Possible***

If the Lacanian reading gives us the structural impossibility of the complete world model, a Deleuzian reading gives us the *political economy* of the representational failure: the way in which compression functions as a molar stratum that captures, organises, and ultimately destroys the molecular flows of reachable possibility.

For Deleuze and Guattari (1987), the plane of immanence—the virtual field of difference-in-itself—is always already excessive with respect to the molar organisations that stratify it. Molar strata are territorialisations: they carve the smooth space of difference into discrete regions, assign identities, produce equivalence classes. The Body Without Organs is the limit-concept that expresses the smooth space before stratification: not a body without organs in the trivial sense, but the *plane of pure differential intensity* prior to the organisation of organs into a functional hierarchy.

Read this against the quotient-lattice structure of admissibility. State space  $\mathcal{X}$  is the plane of immanence: a field of differential intensities (state differences) prior to any equivalence-class formation. The reachability relation  $\sim_A$  is already a stratification—a first, minimal molar organisation that the requirements of planning impose on the smooth space of states. But it is the *coarsest* safe stratification, the minimal molar that preserves the productive flows of possibility. Compression, in this vocabulary, is a further stratification: a deterritorialisation that is simultaneously a reterritorialisation on a coarser molar grid. The Monotonicity Theorem formalises this: movement upward in the quotient lattice (compression) *monotonically* increases admissibility distortion. Every compression step is a molar capture of what had been molecular flow.

The states most vulnerable to compressive capture are, as the paper establishes, precisely the *molecular* states—the outliers, the rare events, the states that deviate from the typical distribution and are, from the molar perspective of the compressor, indistinguishable from noise. These are exactly the states whose reachability geometry is most distinctive: the crack in the beam, the tail-risk event, the singular configuration that lies off the molar grid.

The compressor performs the classical Deleuzian capture: it subordinates the molecular to the molar, the differential to the identical, the intensive to the extensive.

The Body Without Organs of the planning system is the admissibility quotient  $\mathcal{X}/\sim_A$ : the minimal organisation that preserves differential reachability while collapsing only states that are genuinely interchangeable from the perspective of possible action. This is not an organisation imposed from without—it is derived from what planning itself requires, from the immanent requirements of the act. It is, in Deleuzian terms, an *immanent* rather than a *transcendent* principle of organisation.

The failure of the compressive world model is the failure to achieve the Body Without Organs: the residual molar arborescence of the compression objective that captures reachability flows and territorialises them into convenient equivalence classes.  $D_A(\varphi)$  measures precisely the degree of this molar capture—the extent to which the representational stratum has coded the decoding flows of reachable possibility.

## 5. *The Non-All and Badiou's Void:*

### *The Admissibility Quotient as Subtractive Ontology*

The framework has a Badiouian dimension that demands separate treatment. Badiou's (1988) fundamental ontological claim is that the set-theoretic void—the empty set,  $\emptyset$ —is the proper name of Being. Every presentation of a situation, every consistent count-as-one, includes its own unrepresentable remainder: the void from which the presentation subtracted in order to achieve consistency. The event is the irruption of this void into the situation—the moment when the unrepresentable forces itself into presentation.

The admissibility quotient  $\mathcal{X}/\sim_A$  has this structure. It is not an object within the situation of predictive representation learning; it is what the situation excludes in order to be consistent. The predictive objective counts observationally equivalent states as one—it performs its count. But the admissibility quotient counts differently; it counts according to the reachability of futures, according to what the agent can do rather than what the agent has seen. These two counts are incommensurable, and their incommensurability is the void that the situation of predictive learning cannot present.

$D_A(\varphi)$ , in this reading, is the formal name of the void. It cannot be computed from within the situation—this is the paper's honest acknowledgement that it is “not yet an engineering metric.” It is the non-positive kernel of the situation's self-incompleteness, the measure of what the count-as-one of observational learning leaves uncounted. The

research programme that the paper calls for—the development of estimators for  $D_A(\varphi)$ —is, in Badiouian terms, the *fidelity* to the event: the ongoing work of tracing the consequences of a discovery that has ruptured the closure of the previous situation.

The event, here, is the Observational–Interventional Separation Theorem itself. Before the theorem, the situation was closed: it was possible to maintain, without formal contradiction, the view that sufficiently accurate predictive representation would be adequate for planning. After the theorem, this closure is broken; the void has been named; the situation must reconstitute itself in fidelity to what the theorem revealed. The admissibility research programme is this reconstitution.

Lacan’s formula of the non-All ( $\neg\forall$ ) applies here with particular force. The predictive paradigm operates under the fantasy of the All: that the totality of planning-relevant information is presentable within the observational distribution, that the world model, in principle, can be complete. The theorem delivers the non-All: not that the world model fails empirically, but that it fails *necessarily*—that there is no predicating the All, that the totality is constitutively exceeded by its own conditions of possibility. The reachability structure does not appear within the observational All; it is the exception that constitutes the rule of observational learning as *not-All*.

## ***6. Guardrails, Interpellation, and the Symptom of Safety***

Althusser’s (1971) concept of interpellation names the process by which ideology hails the subject into a pre-constituted position: “Hey, you there!”—and the subject, turning, recognises itself as the one addressed. The subject is not produced by the interpellation; the subject is the effect of the retroactive recognition, the illusion that there was always already a subject there to be hailed.

The guardrail—the safety classifier appended downstream of an inadmissible world model—is an instance of ideological interpellation in the *technical* domain. The guardrail hails the representation: “Hey, you there, dangerous state!” But if the representation has already collapsed the dangerous state with a safe one—if  $\varphi(x_s) = \varphi(x_d)$ —then there is no “there” there to be hailed. The interpellation fails not because the call is insufficient but because the subject-position it addresses has been eliminated by the representational apparatus that the guardrail presupposes.

The formal result is devastating in its precision. Any downstream classifier  $G$  operating on

a projection  $\varphi$  is bounded above in its safety-relevant information by  $I(A; \varphi(X))$ : the mutual information between the admissibility variable and the representation. If the projection has destroyed the admissibility information, no classifier can recover it. The guardrail is interpellating a void. Its “Hey, you there!” reverberates in an empty room.

Žižek’s reading of the symptom becomes applicable here. The symptom, for Žižek, is not a disguised expression of an underlying truth that interpretation would reveal. It is a *production* of the structure that generated the symptom in order to sustain itself. The AI safety discourse—with its endless elaboration of guardrails, red-teaming exercises, constitutional AI, RLHF, output filters—is, from the admissibility perspective, a symptomatic elaboration: the endless production of solutions to a problem that is systematically displaced from its actual locus (the representation) to a manageable but ultimately symptomatic site (the classifier). The symptom persists not because the solutions are inadequate but because the problem they address is not the real problem. And the real problem cannot be addressed from within the discourse that the symptom sustains.

This is not a cynical observation. It has a precise technical correlate: the Bayes-risk floor theorem establishes that when  $I(A; \varphi(X)) \approx 0$ , the minimal achievable classification error approaches 50%—the rate of chance. The safety apparatus, operating on such a projection, performs at the level of a coin flip. This is not a failure of implementation; it is the symptom revealing, in the mode of the absurd, the foreclosure that the discourse of safety has systematically refused.

## ***7. The Divided Subject of Planning:***

### ***Towards a Psychoanalysis of the Act***

The Lacanian subject is constitutively divided: barred ( $\$$ ), split between the symbolic order it inhabits and the Real that the symbolic order cannot absorb. This division is not a deficiency to be overcome but the condition of possibility of desire—and, more relevantly here, of the act. The act, for Lacan and subsequently for Žižek, is the moment when the subject traverses the fantasy, ceases to be supported by the *objet a* that organises its desire, and confronts the void directly.

The planning subject—whether artificial or biological—is constitutively barred in exactly the admissibility-theoretic sense. It is barred by the observational-interventional gap: it observes from within the symbolic order of its representation, but it acts from a position that the representation cannot fully capture. The reachability structure that guides action

exceeds the observational representation that learning produces. The planning subject is always already  $\$$ : split between the representation it has and the reachability structure it needs.

The *act of planning*, in this frame, is the moment of traversal. The agent acts, and in acting, produces evidence about the reachability structure that its representation did not preserve. The trajectory-sampling diagnostic—take two states the representation identifies, try actions from each, observe whether outcomes diverge—is the formal analogue of the act as Lacan describes it: a controlled intervention into the Real that forces the Real to reveal itself through its effects. Witnessed admissibility distortion is the symptom revealed by the act; the violation detected is the objet a surfacing momentarily before the fantasy reconstitutes itself.

And here is the crucial point that the admissibility framework implicitly but inexorably makes: the act is epistemically prior to the representation. What the agent can do is not derived from what the agent represents; rather, what the agent represents is evaluated by its adequacy to what the agent can do. The admissibility relation is derived from the requirements of action prior to any specification of reward, observation, or architecture. In Lacanian terms: the Real of reachability is prior to the symbolic order of the representation, and the symbolic order is evaluated by its (necessarily incomplete) articulation of the Real.

This is the structural reason why the Bayesian parallel the paper develops is illuminating. Bayesian inference, as Jaynes (2003) makes explicit through the Knuth–Skilling derivation (Knuth & Skilling, 2012), is not an arbitrary methodology but the unique consistent extension of logic to degrees of plausibility. Similarly, the admissibility relation is not one criterion among many but the unique coarsest safe quotient for planning. Both are derived from structural consistency requirements rather than positive empirical content. Both name a Real that the symbolic order must approximate without ever coinciding with.

## ***8. Coda: Repetition, Difference, and the Infinite Deferral of the Admissible***

Deleuze (1994) distinguishes between the repetition of the Same—the empty repetition that produces no difference—and the repetition of Difference itself: the return that transforms what it repeats. The research programme that the admissibility framework calls for—develop estimators for  $D_A(\varphi)$ , design admissibility-preserving objectives, audit representations for witnessed violations—is not a repetition of the Same. It does not return

to the predictive paradigm and attempt to do it better. It returns to the fundamental question of representation—what must be preserved?— and repeats it *as Difference*: on the other side of the observational–interventional gap, from the enunciative position that the predictive paradigm forecloses.

The admissibility quotient  $\mathcal{X}/\sim_A$  is, in Deleuzian terms, an *Idea* in the technical sense: a differential structure that organises a problem space without resolving into a determinate solution. It specifies what must be preserved without specifying how preservation is to be achieved. It is immanent to the problem of planning—derived from what planning requires—without being transcendent to any particular implementation. It is the virtual structure that any actual representation must actualise, inadequately, partially, always with remainder.

The remainder is  $D_A(\varphi)$ . And the remainder, as every reader of Lacan knows, never disappears. It circulates. It insists. It returns in the mode of the symptom—as planning failure, as safety classifier collapse, as the endless proliferation of guardrails that cannot guard against what the representation has already foreclosed. The symptom is the message. And the message is: *there is no rapport d'observation que tienne*.

The suture will not hold.

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